



Linda S. Adams  
Secretary for  
Environmental Protection

## Department of Toxic Substances Control

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5796 Corporate Avenue  
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Arnold Schwarzenegger  
Governor

September 5, 2006

Ms. Manheimer  
SAIC, Inc.  
1000 Broadway Avenue  
Suite 675  
Oakland, CA 94607

Dear Ms. Manheimer,

Please find a copy of the Phase II Assessment of Subsurface Report dated April 28, 2006, prepared for Foss Plating by Winefield & Associates. Foss Plating is conducting facility assessment and remediation under a Corrective Action Consent Agreement with the Department of Toxic Substances Control. Foss Plating is currently preparing a ground water monitoring plan for the facility.

If you have any other questions regarding the corrective action at this facility, please feel free to call me at (714) 484-5385.

Sincerely,

Irena Edwards  
Hazardous Substances Scientist



**WINEFIELD & ASSOCIATES, INC.**  
ENVIRONMENTAL AND SAFETY CONSULTANTS

**PHASE II ASSESSMENT OF SUBSURFACE  
FOSS PLATING, INC.  
8140 SECURA WAY  
SANTA FE SPRINGS, CALIFORNIA 90670**

**PREPARED FOR:**

Mr. Don Foss  
Foss Plating, Inc.  
8140 Secura Way  
Santa Fe Springs, California 90250

**PREPARED BY:**

Winefield & Associates, Inc.  
110 Pine Avenue, Suite 900  
Long Beach, California 90802

28 April 2006  
Project No. FPI-06-028

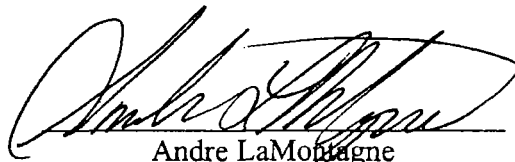
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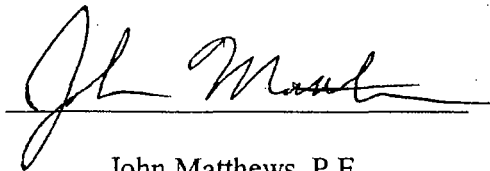
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John Matthews, P.E.  
Senior Consultant

**W&A PROJECT NO.: FPI-06-028  
28 April 2006**

## EXECUTIVE SUMMARY

A subsurface investigation of the site was conducted to determine if operations had contaminated the subsurface soil. Fieldwork was conducted on 13 and 14 March 2006 in accordance with an approved workplan.

Soil samples were analyzed for volatile organic compounds, heavy metals and hexavalent chromium. Only nickel, lead and chromium were found in concentrations exceeding the naturally occurring background levels at the site. Of these, nickel and chromium (including hexavalent chromium) were found at levels that exceed the human health screening criteria.

Ground water samples were analyzed for volatile organic compounds, heavy metals and hexavalent chromium. Both hexavalent chromium and perchloroethylene were found in concentrations exceeding the maximum contaminant level (MCL).

Soil vapor samples were analyzed from depths of 5 feet and 15 feet in the vicinity of the former degreaser vault. The concentrations did not vary significantly on either side of the vault, but ground water concentrations increased in the upgradient direction from the vault. The site is in an area influenced by two known perchloroethylene contaminant plumes (Mission Linen site under the oversight of the Los Angeles Regional Water Quality Control Board, and Omega Chemical under the oversight of the United States Environmental Protection Agency, Region IX).

The contamination from the site does not significantly increase the human health risk relative to the known existing contamination upgradient from the site. Actions to prevent the migration of the contaminants from the secondary sources on the site and monitor the site perimeter are recommended.

## CERTIFICATION

The following certification is provided for this Phase II Assessment Report for the Foss Plating Company site located at 8140 Secura Way, Santa Fe Springs, California. This report has been prepared for Foss Plating Company, Inc. and the Department of Toxic Substances Control of the California Environmental Protection Agency.

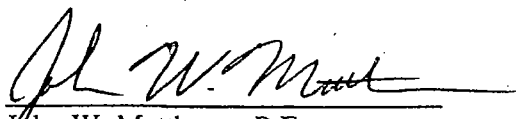
I certify, under penalty of law, that this document and all attachments presented in this report are accurate and complete, and conform to the applicable requirements set forth in Title 22 of the California Code of Regulations. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. The information contained in this plan is intended to accurately present the findings of the subsurface investigation of the subject facility in compliance with California administrative law, and is solely intended for the consideration of the Department of Toxic Substances Control, California Environmental Protection Agency. This certification pertains to the assessment of the environmental conditions of the facilities or property, below the concrete surface. It is not intended, in part or in full, to be utilized by any

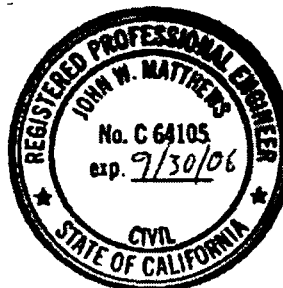
Mr. Don Foss  
28 April 2006  
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Phase II ESA, Foss Plating  
W&A Project No. FPI-06-028Rep01

other party for any other purpose. No information or statements contained in this report shall be used outside of the full context of this report, nor by parties other than the client, Winefield & Associates, Inc. or the Department of Toxic Substances Control. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Certified this 25th day of April, 2006

  
John W. Matthews, P.E.  
Civil Engineer No. C 64105



WINEFIELD & ASSOCIATES, INC.  
ENVIRONMENTAL AND SAFETY CONSULTANTS

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## 1.0 INTRODUCTION

### BACKGROUND

The Foss Plating Company, Inc. (Foss) is located at 8140 Secura Way in the city of Santa Fe Springs, California (**Figure 1**). Foss has been performing nickel and chrome plating since 1947. The site consists of two buildings, the larger one where all of the plating lines were located, and a second building used for finishing and polishing. The buildings are actually connected by a communal door. In front of the facilities are a series of large subsurface vaults that were used to treat waste water.

On 22 August 2002, a phase I environmental assessment inspection of the Foss site was conducted by representatives of the California Environmental Protection Agency's Department of Toxic Substances Control (DTSC) and the Santa Fe Springs Fire Department's Health Hazardous Materials Division. The inspection was conducted to verify information submitted to DTSC on a Further Investigation Questionnaire Checklist dated July 22, 2002, and a previously submitted Phase I Environmental Assessment Checklist.

As a result of the inspection and the review of the checklists, DTSC requested a further investigation of the areas of potential concern. The areas identified include the vicinity of the degreaser, the wet floor areas in the vicinities of plating lines 1 and 2, the nickel carbon filter and the metal stripping area. Fieldwork was conducted on September 19 and 26, 2004 in accordance with the approved workplan.

Soil samples were analyzed for pH, volatile organic compounds, cyanide, heavy metals and hexavalent chromium. Cyanide was not detected in any of the soil samples obtained at the site. Six volatile organic chemicals were reported at detectable levels in the samples, but none of the reported values exceeded human health screening criteria. Only nickel, lead and chromium were found in concentrations exceeding the naturally occurring background levels at the site. Of these, nickel and chromium (including hexavalent chromium) were found at levels that exceed the human health screening criteria.

Additional site characterization was required by the DTSC to adequately identify the extent and significance of the subsurface contamination. This report summarizes the results of that characterization.

## 2.0 SITE DESCRIPTION

### SITE LOCATION

The site is located at 8140 Secura Way in Santa Fe Springs, Los Angeles County, California. The site is situated on the east side of Secura Way, north of the intersection of Secura Way and Rivera Road, approximately 3.9 miles Northeast of Santa Fe Springs City Hall. Santa Fe Springs is located approximately 15 miles southeast of downtown Los Angeles, California. Access to the



site is from Secura Way to the west of the site. The Foss facility covers approximately 20,590 square feet, and is improved with two buildings: the Plating building (9,193 square feet); and the Polishing building (3,452 square feet). A Site Location Map is presented as Figure 1. The Site Plan is presented as Figure 2

## **SITE HISTORY**

Foss Plating was in operation at their present location from 1968 to 2005. An inspection of records of the Santa Fe Springs Building Department failed to give any indication of prior occupants. A title search confirmed that the land was agricultural prior to being purchased by Foss Plating.

Historical aerial photographs were reviewed to assess past land use of the property and adjacent areas. The Fairchild Aerial Photography Collection, located at Whittier College, provided aerial photographs from 1928, 1937, 1945, 1946, 1947, 1949, 1953, 1955, 1957 and 1959 for our review. None of the photographs reviewed showed evidence of waste disposal or indications of other environmental concerns on the site or adjacent property. In addition, no structures were shown onsite in any of the photographs.

The photographs from 1928 to 1937 show the site to be vacant land containing furrows, indicating cultivation. The surrounding areas appear to have been very similar. No structures are shown in the immediate vicinity of the property.

The photographs from 1945 to 1955 differ from earlier photos only in that areas surrounding the site appear sparsely populated. Structures that appear to be single-family homes are located in the western and northwestern portions of the photographs.

The site is still shown to be vacant, cultivated land in the 1957 and 1959 photographs. Areas surrounding the site appear more heavily populated, predominantly to the west, northwest, and southwest.

## **3.0 FACILITY BACKGROUND**

Land use within ¼ mile has been a mixture of small light industrial businesses, including several machine shops, and Mission Linen, an industrial laundry. Mission Linen did some subsurface testing along the storm water swale on Secura Way that runs by the Foss Plating location in the Spring of 2002. Results of the sampling indicate that the perchloroethylene concentration in the ground water beneath Secura Way, west of the site was 46.7 micrograms per liter (µg/l).

Foss Plating Company operated under regulatory oversight by the Santa Fe Springs Fire Department (CUPA), South Coast Air Quality Management District, California State Water Resources Control Board, the Sanitation Districts of Los Angeles County and DTSC.

Recent assessments and investigations include testing for the Omega Superfund Site conducted just across the street and testing for Mission Linen on Secura Way near the Foss office. Foss removed an abandoned below ground clarifier under the oversight of the City of Santa Fe Springs, Health Hazardous Materials Division. No volatile organic compounds were detected in the soil samples taken beneath the removed clarifier. Arsenic was the only element that exceeded its residential PRG level (.39 mg/kg). In 1999, Foss did a limited shallow soil investigation in the wastewater treatment area. The results of the Mission Linen investigation indicated that the perchloroethylene plume in the groundwater has extended south of the property which is adjacent to the northern end of Secura Way.

The groundwater sample collected by Roy F. Weston, Inc. as part of the Omega Chemical Superfund Groundwater Characterization Study contained 5.5 micrograms per liter ( $\mu\text{g/l}$ ) of perchlorethylene and 3  $\mu\text{g/l}$  of trichlorethylene.

## **OPERATIONS**

Foss conducted metal plating of various metal components. There were two (2) plating lines and one (1) stripping line contained within the plating building. For almost thirty years nickel and chromium had been used as plating metals. Copper can be introduced to solutions either from copper wire used for hand racking, copper from the racks, or copper already on the parts to be plated. Large volumes of zinc parts were plated prior to 1974. The metal components were first cleaned with caustic, alkaline, and acid solutions, then plated with nickel, and chromium. The components to be plated were rinsed with water between each bath. Support operations included wastewater treatment, polishing, facility and equipment maintenance, and administration.

Wastes generated from the plating operations included spent plating solutions, and various process-related wastes. These wastes were historically handled either as regulated hazardous wastes under the codes F006, or F001 or as wastes able to be processed by the on-site wastewater treatment facility (WWTF). Since 1968, Foss has been shipping various wastes, whenever possible, for recycling rather than land disposal.

The facility has discontinued plating activities at the site, and is removing associated plating equipment under the oversight of the CUPA. Upon completion of the above ground closure activities, a work plan will be submitted to DTSC to close the waste treatment units.

## **CURRENT OPERATIONAL STATUS**

Foss currently owns the property. The parts plating processes are no longer present. The three-stage clarifier was removed as described in the Closure Report dated April, 2003.



#### 4.0 APPARENT PROBLEMS

Nickel and hexavalent chromium contaminated soil were found in the initial investigation. Nickel and chromium were found in soil and groundwater samples obtained in the follow-up investigation done on 13 and 14 March 2006. Perchloroethylene was found in all three groundwater samples and all soil vapor samples. The laboratory results and sample locations are discussed in detail in the Sampling Activities and Results section of this report.

##### NICKEL

Nickel contamination was discovered in the subsurface soil. The nickel concentrations in the groundwater were less than the MCL in all three samples. The elevated levels of nickel in the soil would be hazardous if there was a completed exposure pathway. As long as the contaminated soil is capped, it does not present a significant threat to human health or the environment, because it is not likely to migrate without the introduction of acidic groundwater. Isopleths of nickel concentrations are shown on Figure 6, and cross-sections are shown on Figure 8.

##### HEXAVALENT CHROMIUM

In the previous investigation, the hexavalent chromium contamination was highest in the samples from the greatest depth. Hexavalent chromium was found in all three groundwater samples collected on 13 and 14 March 2006. Only GW-3 had levels of hexavalent chromium exceeding the MCL of 50 micrograms per liter ( $\mu\text{g/l}$ ). Although groundwater beneath the site is contaminated with hexavalent chromium, additional sampling is required to determine the extent of the plume to the west and southwest (groundwater flow is expected to be toward the southwest underneath the site based on information obtained from the investigations of the Omega Chemical superfund site and the former Mission Linen site which are both upgradient from Foss).

The hexavalent chromium has a significant migration potential, because it is soluble over a wide pH range. Chromate is the predominant species at low pH, and dichromate is the predominant species at high pH. The trivalent form of chromium is least soluble at a pH of 8.5. Conventional treatment of hexavalent chromium is to reduce it to the trivalent form. Migration can be controlled by reduction of the chromium or capping to prevent water intrusion. Normal groundwater flow would be expected to dissipate the plume overtime. The thick clay layer will tend to retain the hexavalent chromium in the unsaturated (Vadose) zone without the leaching effect due to liquid intrusion from above. Isopleths of hexavalent chromium ground water concentrations are shown on Figure 3, soil concentrations are shown on Figure 7, and cross-sections are shown on Figure 9.

##### PERCHLOROETHYLENE

Perchloroethylene was detected in groundwater at almost one-hundred times the MCL, but none of the soil vapor samples were high enough to account for the levels detected upgradient from the former degreaser vault. The groundwater concentrations of PCE increased with distance

from the former degreaser vault.

The former Mission Linen site, located at 11920 Washington Blvd. (approximately 300 feet to the north of Foss on the west side of Secura Way), had higher groundwater levels of perchlorethylene at the southwest corner of their property than any concentrations found at Foss. The Los Angeles Regional Water Quality Control Board required the Mission Linen property owner to install one air sparging well and seven vapor extraction wells at that site. In 2002, a map was prepared showing PCE groundwater concentrations less than 100 µg/l from the Mission Linen plume in Secura Way adjacent to the Foss property. A ground water sample taken beneath Secura Way west of the site had a perchloroethylene concentration of 46.7 µg/l.

If the perchlorethylene in the groundwater is from an onsite source and is not entirely attributable to the Omega Chemical superfund site or the former Mission Linen site, it does not appear to be coming from the former degreaser vault. The isopleth diagrams for PCE and Cr(VI) in the groundwater suggest possible subsurface soil contamination source(s) in the vicinity of BSL-12. Perchloroethylene isopleths for groundwater are shown on Figure 4, and soil gas are shown on Figure 5.

## 5.0 ENVIRONMENTAL SETTING

The subject site is shown on the, Whittier Quadrangle 7.5-minute series topographic map published by the United States Geological Survey (**Figure 1**). This map was published in 1965 and was revised in 1981. According to the map, the site is shown at an elevation of 155 feet above mean sea-level. The site is shown on an area that slopes gently to the southwest. The site is shown approximately 1.7 miles east of the San Gabriel River and approximately 1.9 miles southwest of the Puente Hills. The site is also located approximately 15 miles south of the San Gabriel Mountains and approximately 15 miles north of the Pacific Ocean.

The site is shown on the Long Beach Sheet of the Geologic Map of California. The site is shown atop Quaternary Alluvium Deposits. It is located on the Downey Plain in the northwestern portion of the Peninsular Ranges geomorphic province of Southern California. It is situated on the central block of the Los Angeles Basin. The central block is a structural syncline that is filled primarily with fluvial deposits of silt, sand, and gravel.

## HYDROGEOLOGIC

The site is located on the boarder of the Montebello and Santa Fe Springs Plains of the Montebello Forebay Areas in the Central Basin. The Area extends southward from the Whittier Narrows and is considered one of the most important re-charge areas in the Central Basin. The Montebello Forebay is overlain by parts of the Montebello, Downey, and Santa Fe Springs Plains. The eastern arm of the Gaspar aquifer extends northeasterly through the Montebello Forebay and into the Whittier Narrows. The Gaspar is exposed at the ground surface from the Whittier Narrows to Imperial Highway and at the site is covered by only 25 feet of relatively impermeable soils.

According to Bulletin 104 (State of California, Department of Water Resources), the top of the Gaspur Aquifer is located approximately 25 feet beneath the subject site. The Gaspur is approximately 70 feet thick beneath the site but appears interrupted by layers of Recent Quaternary Deposits. There appears to be approximately 100 feet of non-water bearing formation beneath the Gaspur before the top of the Lynwood and/or the Jefferson Aquifers are encountered. The water-bearing zone appears to be approximately 100 feet thick and overlies approximately 50 feet of non-water-bearing formation. Beneath that are the Silverado Aquifer (approximately 150 thick), a non-water-bearing zone (approximately 40 feet thick) and then the Sunnyside Aquifer (approximately 110 feet thick).

W&A has drilled 3 boreholes to groundwater at the site. Groundwater was encountered at depths from 25 to 33 feet below surface grades. The depth at which groundwater was encountered was in good agreement with Bulletin 104.

### **SURFACE WATER AND DRAINAGE**

The major surface water shown on the topographic map is the San Gabriel River. The San Gabriel River runs from north to south to the Pacific Ocean and is the major drainage of the eastern most portion of Los Angeles County. On the west side of the San Gabriel River, west of the site is shown a percolation basin. Less than ½ mile southwest of the site is the Sorenson Avenue Drain. The Drain heads southeast and then south where it connects with the La Canada Verde Creek. The Creek then travels south to the Pacific Ocean.

Regional and local surface drainage patterns trend towards the southwest. A surface run-off collection channel is located along the west side of the building and is used for spill control, and collection of storm water run-off from the waste-water treatment system. Storm water from the roofs and from the parking lots flow to a surface storm channel that runs down the center of Secura Way. Storm water flows south, down the channel to Rivera Road and continues west to a storm drain located at the corner of Rivera Road and Sorenson.

### **HAZARD AREAS**

According to the Alquist-Priolo Special Studies Zones maps, no known faults transect the site. Approximately 2-1/2 miles north of the site is the Whittier Fault Zone and approximately 4 miles south of the site is the Norwalk Fault. Both of these faults/zones are considered active.

The site is located in a Zone C flood hazard area as described by the Federal Emergency Management Agency. According to FEMA this is an area of minimal flooding.

## **6.0 SAMPLING ACTIVITIES AND RESULTS**

W&A performed the fieldwork for the assessment on 13 and 14 March 2006. Drilling was performed by Astech Environmental Services. Sampling was performed by W&A. On-site laboratory analysis was performed by Jones Environmental. Off-site laboratory analyses were performed by Sierra Analytical. Procedures for the field investigation are provided in Appendix 2.

### Soil Gas Survey

W&A drilled three boreholes (VP-1, VP-2, and VP-3) to collect soil gas for laboratory analysis. Each borehole was drilled to a depth of 15 feet in depth and completed with two vapor probes; one set at 5 feet in depth, and one set at 15 feet in depth. VP-2 was drilled and continuously cored; VP-1 and VP-3 were not. W&A collected soil samples from 15 feet in depth from each borehole.

### Groundwater Investigation

W&A drilled three boreholes (GW-1, GW-2, and GW-3) from which W&A collected groundwater samples. GW-1 was continuously cored to a depth of 32 feet below surface grade with samples collected at 5-foot intervals. GW-2 and GW-3 were drilled to depths 36 and 34 feet respectively; also with soil samples collected at 5-foot intervals.

### Nickel Investigation

W&A drilled two boreholes (BSL-11 and BSL-12) for soil samples only. Both boreholes were drilled to depths of 25 feet below surface grade with soil samples collected at 5-foot intervals.

## **FIELD DATA**

The soil encountered during the drilling consisted of fine-grained materials. Based on the two continuous cores and the samples collected in the rest of the boreholes, the soil from the surface to 10-12 feet below surface grade consisted of primarily silty sand (SM) with an increase in silt with depth in the borehole. Beneath the layer of silty sand was a layer of fat clay (CL) that generally extended to the groundwater. A 2.5-foot layer of silt was encountered above the clay in VP-2 and a 3-foot layer of silt was encountered in GW-1. However, the silt layers did have some clay. Groundwater was encountered in a layer of fine to medium grained sand; some of which was silty, some of which had very little silt. The soils encountered were recorded on the borehole logs (**Appendix 3, Borehole Logs**).

Groundwater was encountered at 29 feet below surface grade in GW-1. Groundwater was encountered at 33.5 and 34 feet in GW-2 and GW-3 respectively. However, the true depth at which groundwater was encountered in the two boreholes is not certain. There was very little groundwater entering the boreholes and the depth at which groundwater appeared to be encountered was much deeper than in GW-1. Because of the clay above there may have been smearing along the walls of the borehole that prevented the water-bearing zone to be exposed at its true first depth.

W&A observed no staining in any of the soil samples collected. W&A did smell VOC-type odors in the samples collected from BSL-12 at a depth of 5 to 20 feet below surface grade.

## **LABORATORY DATA**

### Soil Gas Survey

W&A collected soil gas samples from VP-1, VP-2, and VP-3 and had them analyzed for VOCs

using an on-site mobile laboratory. VP-2 was drilled first and purge tests were performed on both of the depths. Purge tests included purging 1, 3, and 7 volumes from each depth. The purge test showed that 3 purged volumes were the best at 5 feet in depth and 7 purged volumes were the best at 15 feet in depth. Each of the samples collected was then analyzed for VOCs by EPA Method 8260B. The samples analyzed and the number of purged volumes used for each sample is summarized in **Table 1**. The laboratory reports are provided in **Appendix 4**. One duplicate sample was analyzed by the laboratory.

**Table 1**  
**Summary of Vapor Sample Analyses**

Borehole	Depth	# of Purges	Laboratory Results (µg/L)					
			Chloro-ethane	Chloro-form	1,1 DCE	PCE	1,1,1 TCA	TCE
VP-1	5	3	nd	nd	0.32	<b>4.4</b>	0.062	nd
	5 (d)	3	nd	nd	0.24	<b>4.3</b>	0.070	nd
	15	7	nd	nd	0.43	<b>4.0</b>	0.077	nd
VP-2	5	1	nd	nd	0.51	<b>3.2</b>	0.032	0.18
	5	3	nd	nd	0.52	<b>3.1</b>	nd	nd
	5	7	nd	nd	0.53	<b>3.3</b>	0.076	nd
	15	1	0.25	nd	3.4	<b>5.0</b>	0.13	0.17
	15	3	0.24	nd	3.6	<b>7.0</b>	0.13	0.18
	15	7	nd	0.26	4.5	<b>8.6</b>	0.14	0.19
VP-3	5	3	0.66	nd	0.39	<b>4.6</b>	0.14	nd
	15	7	nd	0.99	0.58	<b>7.1</b>	0.16	nd
<b>CHHSLs</b>			na	na	na	6.03E-1	2.79E+03	1.77E+0
<b>Laboratory Reporting Limit</b>			0.01	0.01	0.01	0.01	0.01	0.01

µg/L: Micrograms per liter, roughly equivalent to parts per billion.

nd: Not detected.

(d): Duplicate sample.

CHHSL: California Human Health Screening Levels for Soil Gas (Commercial/Industrial Use Sites).

na: Not applicable.

**Bold:** Values in bold exceed the CHHSL for that compound.

The laboratory reported detection of six different VOCs in the 11 vapor samples analyzed. Of those compounds detected only perchloroethylene (PCE) was reported in concentrations greater than its California Human Health Screening Level for industrial-use shallow soils (CHHSL). PCE was reported at a concentration greater than the CHHSL in every sample.

A duplicate sample was collected from VP-1 at a depth of 5 feet. The laboratory results for the duplicate were in excellent agreement with the other sample collected from that depth.

#### Groundwater Investigation

W&A collected groundwater samples from 3 locations. Each of the samples was analyzed for VOCs by EPA Method 8260, for California Title 22 Metals by EPA Method 6010B, and for



hexavalent chromium by EPA Method 7199. The laboratory results are summarized in Tables 2 and 3. The laboratory reports are provided in Appendix 4.

**Table 2**  
**Summary of Groundwater Sample Analysis--VOCs**

Borehole	Laboratory Results (µ/L)*			
	Chloroform	1,1 DCE	PCE	TCE
GW-1	28	4.6	230	6.5
GW-2	17	3.1	220	3.0
GW-3	11	5.7	490	3.8
MCLs	100	6	5	5
Reporting Limits	1.0	1.0	1.0	1.0

\*: Laboratory screened for 60 compounds, all other compounds not shown were reported as "non detect" by laboratory

VOCs: Volatile organic compounds

µg/L: Micrograms per liter; roughly equivalent to parts per billion

MCLs: Maximum concentration limits; standards for drinking water set by the State of California

**Table 3**  
**Summary of Groundwater Sample Analysis--Metals**

Borehole	Laboratory Results (mg/L)		
	Cr	Cr <sup>6</sup>	Ni
GW-1	2.3	0.017	1.8
GW-2	0.89	0.0040	1.2
GW-3	1.0	0.91	61
MCLs	0.05	0.05*	100
Rep Limits	0.98	0.006	0.79

mg/L: Milligrams per liter; roughly equivalent to parts per million

nd: Not detected at laboratory detection limits

MCLs: Maximum concentration limits; standards for drinking water set by the State of California

\* The MCL for chromium does not specify hexavalent or total. OEHHA has withdrawn the hexavalent chromium MCL, but the San Francisco Bay Regional Water Quality Control Board has published an ESL for protection of human health of .021 mg/l for hexavalent chromium.

The laboratory reported concentrations of four VOCs in the groundwater samples collected; Chloroform, 1,1 Dichloroethene, Perchloroethene, and Trichloroethene. The laboratory reported concentrations of PCE from 230 to 490 µg/L in the samples, all of which are greater than the MCL for PCE. The laboratory reported a concentration of 6.5 µg/L of TCE in the sample collected from GW-1 which is slightly higher than its MCL. The laboratory reported no TCE in either of the other two groundwater samples collected.

The laboratory reported concentrations of all metals (17 plus hex chrome) in the groundwater samples collected except silver, beryllium, mercury, and thallium. None of the concentrations

reported were in excess of their respective MCL except for chromium.

### Soil Investigation

The soil samples submitted for analysis by the laboratory were analyzed for metals (Title 22) and hexavalent chromium. The laboratory reported concentrations of hexavalent chromium in excess of the CHHSLs (37 mg/Kg) in the sample collected from VP-3 at 15 feet in depth, GW-1 at 20 and 25 feet in depth, and GW-2 at 15 feet in depth. Hexavalent chromium was not reported in excess of the CHHSL in any of the other samples tested.

The laboratory reported concentrations of Nickel in excess of the CHHSL (16,000 mg/Kg) in the samples collected from GW-3 at 15 feet in depth, BSL-11 at 10 and 15 feet in depth, and BSL-12 at 10 and 15 feet in depth. The laboratory results of the metals data are summarized in **Table 4**.

**Table 4**  
**Summary of Soil Sample Analysis-Metals**

Borehole	Depth	Laboratory Results (mg/Kg)		
		Cr	Cr <sup>6</sup>	Ni
VP-1	15	43	0.94	29
VP-2	15	41	0.75	29
VP-3	15	150	240	43
GW-1	20	130	46	40
	25	120	140	29
GW-2	15	1,300	1,800	120
	20	38	1.1	27
	20	36	2.8	28
GW-3	15	40	nd	15,000
	15	46	nd	14,000
	20	31	nd	32
	25	35	nd	30
BSL-11	10	32	nt	35,000
	15	43	nt	4,600
	20	30	nt	24
BSL-12	10	25	nt	17,000
	15	37	nt	30,000
	15 (d)	34	nt	23,000
	20	36	nt	46
CHHSLs		10000	37	16,000
Reporting Limits		0.98	24-120	0.79

mg/kg: Milligrams per kilogram; roughly equivalent to parts per million  
nd: Not detected at laboratory detection limits  
nt: Not tested  
CHHSLs: California Human Health Screening Levels set by the State of California

### Previous Soil Investigation

Soil samples were collected from eleven boring locations in September of 2004. The laboratory reports are presented in Appendix 1 and the results are summarized in Table 5.

**Table 5**  
**Summary of Previous Soil Sample Analysis-Metals**

Borehole	Depth	Laboratory Results (mg/Kg)		
		Cr	Cr <sup>6</sup>	Ni
BSL-1	1	21.8	.097	17.0
BSL-1	10	131	85.3	11.9
BSL-1	15	443	nt	23.6
BSL-2	1	18.2	0.076	14.9
BSL-2	10	46.5	25.7	30.5
BSL-3	1	18.5	0.081	20.2
BSL-4	1	35.0	nt	6730
BSL-4	5	17.1	nt	11000
BSL-5	1	20.8	0.101	90.2
BSL-5	5	18.3	0.064	2820
BSL-5	7	18.9	nt	5350
BSL-6	1	24.8	0.099	22.0
BSL-6	5	21.5	0.130	20.2
BSL-7	1	21.8	nt	2420
BSL-7	5	20.0	nt	6590
BSL-8	1	19.0	.35	1550
BSL-8	10	22.8	nt	19.7
BSL-9	1	25.2	1.06	16.2
BSL-9	10	915	807	244
BSL-9	15	1220	nt	24.0
BSL-10	1	20.7	.110	15.5
BSL-10	10	17.2	.185	21.9
BGS-1	1	18.8	nt	14.7
BGS-1	10	15.5	nt	12.5
CHHSLs		10000	37	16,000
Reporting Limits		0.5	.04-4	2.5

mg/Kg: Milligrams per kilogram; roughly equivalent to parts per million  
nd: Not detected at laboratory detection limits  
nt: Not tested  
CHHSLs: California Human Health Screening Levels set by the State of California

## 7.0 HUMAN HEALTH SCREENING EVALUATION

Nickel in soil, hexavalent chromium in groundwater, and perchlorethylene in groundwater and soil gas were all found at levels exceeding the respective California Human Health Screening Levels or Maximum Contaminant Levels. Usually, screening level risk assessments are conducted for residential exposure assumptions for preliminary endangerment assessments and clean closure purposes. The nearest residential areas are located approximately .17 miles north of the site on the north side of Washington Boulevard. All of the downgradient properties (south-southwest) of the property are industrial or commercial use for over one mile, but Santa Fe Springs Well # 1 is approximately one-half mile southwest of the site. Santa Fe Springs Well # 1 is the nearest known drinking water well.

The identified subsurface contamination (nickel, chromium and perchloroethylene) beneath the site is under the concrete slab foundation of the existing building. In a site-specific risk assessment, the first step is to identify the potential exposure pathways and establish a conceptual site model. Some pathways are viable for some chemicals and not others. For example, volatile organic compounds may be inhaled as a vapor, but less volatile species such as nickel salts must form a dust to be inhaled.

The ingestion pathway is usually based on assumptions of soil being ingested by children. This pathway is extremely important in school sites and residential locations, but is very unlikely to be complete in industrial areas that are paved. The ingestion pathway for adults is more likely to be from dust exposure or contaminated food crops than direct ingestion of undisturbed soil.

If the contaminated soil remains capped beneath the building foundation and sheltered from water intrusion into the vadose zone, exposure to the contaminants is limited to the groundwater pathway and vapor intrusion into indoor air. The active sources of contamination have been eliminated from the site. Perchlorethylene has not been used on the property for several years, and nickel and chromium plating activities were stopped in 2005. The secondary source (the contaminated soil) remains under the building. The building acts to reduce the migration potential from the secondary source by diverting precipitation from percolating into the vadose zone. The surrounding buildings and large paved areas reduce the likelihood of significant contaminant migration from the vadose zone to the saturated zone. The thick clay layer beneath the site also provides significant surface area for contaminants to be absorbed.

Resolution 88-63 of the California State Water Resources Control Board assumes that all groundwater is potentially drinking water unless the total dissolved solids (TDS) exceeds 3,000 mg/l, there is contamination unrelated to the specific pollution incident that cannot reasonably be treated for domestic use or the water source does not provide sufficient water to supply a single well capable of producing an average, sustained yield of 200 gallons per day. The site is downgradient from two contaminated sites that are established sources of perchlorethylene, and both sources have significantly higher concentrations of perchloroethylene in soil gas and ground water than have been detected at the site. Based on 2002 data from the former Mission Linen site investigation, perchloroethylene concentrations in ground water were 86.7 µg/l 120 feet

north of the site and 46.7 µg/l west of the site beneath Secura Way. These values suggest that the MCL of 5 µg/l is not a reasonable clean-up standard for ground water at the site.

Concentrations of perchlorethylene in the vadose zone soil gas samples were higher at the deeper depths than the shallow depths. For screening purposes, current DTSC guidance recommends the use of the Johnson-Ettinger model for evaluating the effect on indoor air quality from subsurface volatile organic compound (VOC) contaminants. The highest perchlorethylene concentration measured in soil gas at the depth of five feet was 4.6 µg/l in VP-3. The indoor air concentration estimated using the screening level assumptions is 3.57 µg/m<sup>3</sup> (or .527 ppb) of perchloroethylene. The incremental cancer risk calculated for the estimated indoor air concentration is  $2.7 \times 10^{-6}$ . The screening model uses residential exposure assumptions including 24 hour per day instead of 8 hour per day exposure durations. Correcting for the exposure duration would yield an occupational incremental risk of  $9 \times 10^{-7}$  (less than one in one-million).

The hexavalent chromium in the ground water was approximately eighteen times the MCL for total chromium in the ground water sample from GW-3. Approximately 40 feet to the south in the sample from GW-2, the concentration was 1.9% of the concentration in the GW-3 sample. The property line is approximately 60 feet to the south-southwest of GW-2. The estimated hexavalent chromium concentration in the ground water at the property line downgradient from GW-3 is less than 50 µg/l (the MCL). The nearest drinking water well is approximately one-half mile from the site. There is no existing use of the shallow aquifer, and due to the plumes from the former Mission Linen site and the Omega Chemical superfund site it is unlikely that the aquifer will be used for drinking water in the foreseeable future.

As long as the contaminated soil remains capped by the building, the impacted ground water is far enough away from the nearest water well, and the indoor air concentration of perchlorethylene is low enough to not present a significant risk to human health in the water supply or to workers exposed to indoor air at the site.

## 8.0 ECOLOGICAL SCREENING EVALUATION

The site is within the United States Geological Survey Whittier Quadrangle. The California Department of Fish and Game has records of sightings of Species of Concern in the Whittier Quadrangle. Four listed plant species and two animal species have been cited in the Whittier Quadrangle. However, the site and the surrounding industrial area do not provide habitat for these species.

Based on a review of the available information, the site does not represent a threat to any identified species of concern. The species listed in the Fish and Game Database are listed in Table 6 below for reference.

**TABLE 6: CALIFORNIA DEPARTMENT OF FISH & GAME DATA (WHITTIER)**

ELMCODE	SCINAME	COMNAME	FEDSTAT	CALSTAT
ABNRB02022	<i>Coccyzus americanus occidentalis</i>	western yellow-billed cuckoo	Candidate	Endangered
PDAST5L0A1	<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	None	None
PDPLM0C0Q0	<i>Navarretia prostrata</i>	prostrate navarretia	None	None
PMPOA4G010	<i>Orcuttia californica</i>	California Orcutt grass	Endangered	Endangered
PDHYD0C510	<i>Phacelia stellaris</i>	Brand's phacelia	None	None
AAABF01030	<i>Spea (=Scaphiopus) hammondii</i>	western spadefoot	None	None

## 9.0 COMMUNITY PROFILE

The site is located in an industrial area, but the nearest residential areas are North of Washington Blvd., approximately 300 feet from the facility. The area is considered to be within the contaminant plume from the Omega Chemical Superfund Site. The direction of the groundwater gradient is towards the South-Southwest, and that area is industrial.

There is a hospital approximately one-half mile East of the facility, and the nearest schools are about the same distance away. Wiggins School is to the Northeast, Washington School is to the Northwest, and Aeolian School is to the West.

2000 Census data indicate that 85% of the 21,510 persons living within a one-mile radius of the facility are considered members of a "minority."

## 10.0 CONCLUSIONS AND RECOMMENDATIONS

The following conclusions may be derived from the most recent and previous investigations:

- Soil, ground water, and soil gas contamination have been discovered at the site.
- Nickel, hexavalent chromium and perchloroethylene are identified constituents of concern.
- Groundwater beneath the site is impacted by perchloroethylene and hexavalent chromium.
- Based on the proximity of the perchloroethylene contaminant plumes from the former Mission Linen site and the Omega Chemical site, the groundwater gradient, concentrations of perchlorethylene and consistency of soil vapor concentrations in the vicinity of the vapor degreaser pit, the degreaser pit does not appear to be a source of subsurface perchloroethylene contamination.
- Based on the correlation between hexavalent chromium and perchloroethylene concentrations in the ground water samples, odors noticed in the completion of boring BSL-12, and the history of perchloroethylene and hexavalent chromium use at the site there may be a coincident source or sources of perchloroethylene and hexavalent chromium in the vicinity of BSL-12.

- Elevated levels of nickel contamination were found in the vicinity of BSL-12. The building floor prevents completion of exposure pathways from the subsurface soil. The building also discourages migration of the subsurface contamination by preventing rain water from transporting the contaminants through the vadose zone.

Due to the contamination from other upgradient sources and the depth of the soil contamination, it is not feasible to clean the site to background levels or levels that are acceptable for residential use. Ground water has been impacted underneath the site, but off-site ground water is not likely to be any worse than the background levels already established from investigation of the former Mission Linen and Omega Chemical sites. The following actions are recommended based on the available information:

- Estimate fate and transport of subsurface contaminants assuming the maintenance of the building as an effective cap to quantify the potential adverse impacts to ground water over time.
- Prepare a work plan to install ground water monitoring wells downgradient and cross gradient to the identified ground water contamination to verify the results of the fate and transport modeling.
- Complete a more detailed health risk assessment to verify appropriateness of capping as a corrective action for the subsurface contamination at the site.
- Negotiate conditions with DTSC and execute an appropriate deed restriction to protect human health and the environment.

### 11.0 LIMITATIONS

This report is intended for the use of Foss Plating, Inc.. Our services have been performed under mutually agreed upon terms and conditions. If other parties wish to rely on this report, please have them contact us so that a mutual understanding and agreement of the terms and conditions for our services can be established prior to their use of this information.

Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental, health and safety consultants practicing in this or similar localities at the time of service. No other warranty, express or implied, is made as to the professional advice included in this report.

The findings and opinions in this report are relevant to the dates of our site work. They should not be relied upon to represent conditions at later dates.

The opinions included in this report are based on information obtained during the study and on our experience. If additional information becomes available that might affect our conclusions, we request the opportunity to review the information, reassess the potential environmental and health and safety concerns, and modify our opinion, if warranted.

Although this assessment has attempted to identify the potential for site contamination, potential

sources of contamination may have escaped detection. They may have been overlooked because of the scope of this assessment, the inaccuracy of public records, or the presence of undetected and unreported environmental concerns.

## 12.0 REFERENCES

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USEPA, July 1996, "Soil Screening Guidance, User's Guide."

USEPA, July 1996, "Soil Screening Guidance, Technical Background Document."



TN \* MN  
13 1/2°

Map created with TOPO!® ©2003 National Geographic (www.nationalgeographic.com/topo)



**WINEFIELD & ASSOCIATES, INC.**  
ENVIRONMENTAL AND SAFETY CONSULTANTS

Description

**SITE LOCATION MAP**

SITE

**FOSS PLATING, INC**

Location

**8140 SECURA WAY  
SANTA FE SPRINGS, CALIFORNIA**

Job No.

**FPI-06-028**

Date

**3/6/06**

Figure

**1**

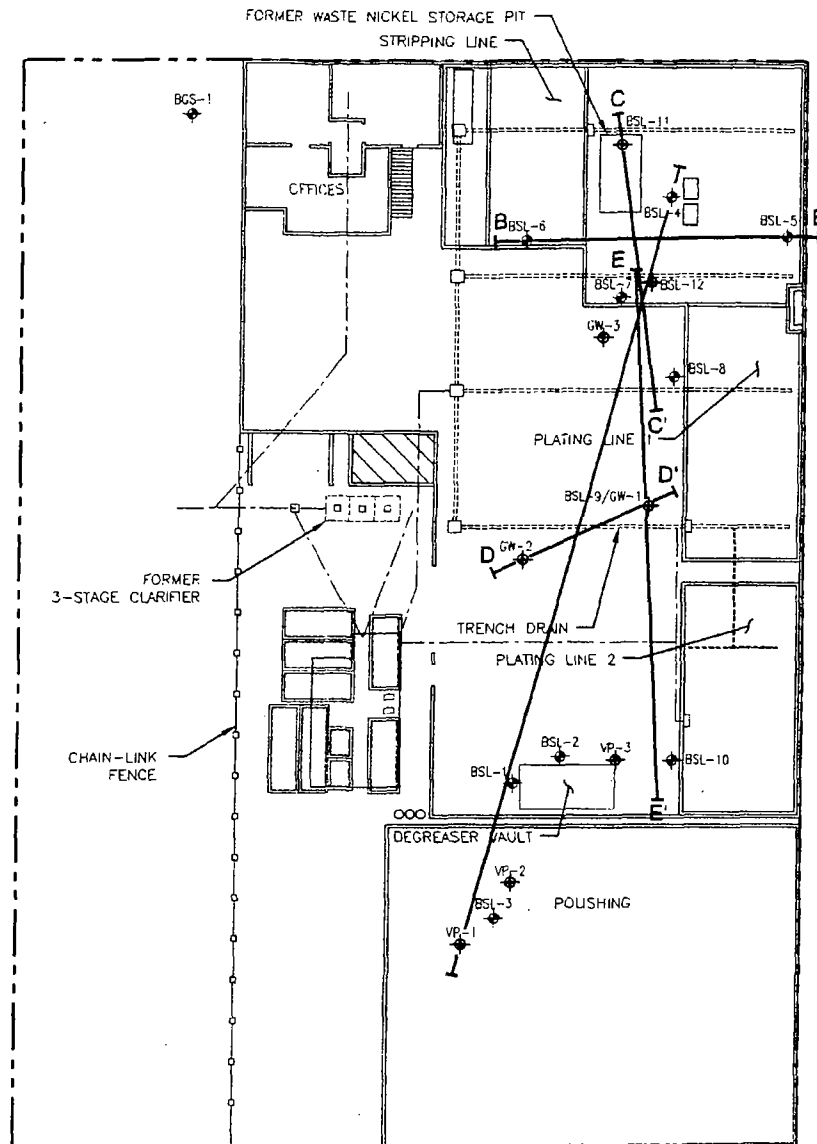
Foss Plating Report Addendum #2

Revised Table 3

Comparison of Groundwater Sample Results to MCLs

	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Thallium
	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)
GW-1	0.039	0.049	1.6	<0.009	0.004	2.3	2.9	0.065	<0.00073	1.8	<0.026	<0.011
GW-2	<0.023	<0.025	0.92	<0.009	0.037	0.89	0.65	<0.019	<0.00073	1.2	<0.026	<0.011
GW-3	<0.023	0.14	4.0	<0.009	0.016	1.0	0.53	0.13	<0.00073	61	0.034	<0.011
Action Levels	0.006	0.01	1	0.004	0.005	0.05	1	0.015	0.002	0.1	0.01	0.002

Secura Way



# Explanation

- Property Line
- Fence Location
- - - Drain Line Location
- ◆ Well Location
- ◆ Soil Boring Location
- A — A' Cross-Section Index

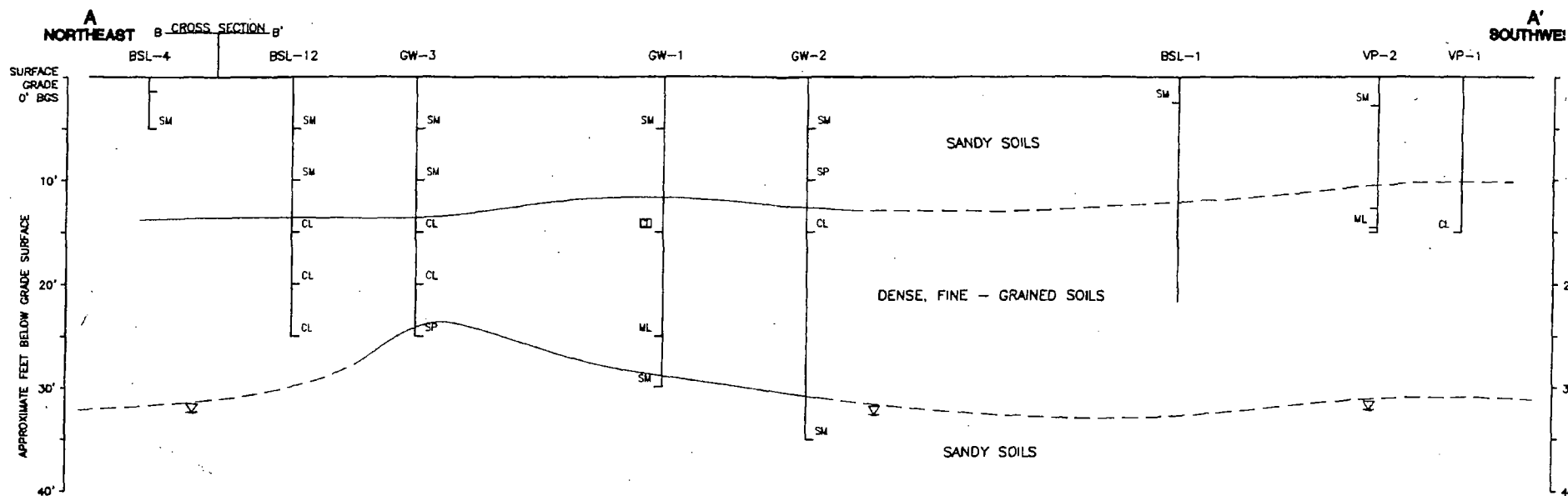
## Note:

1. Site Features and Locations are Approximate, Not a Surveyed Map.



WINEFIELD & ASSOCIATES, INC.  
ENVIRONMENTAL AND SAFETY CONSULTANT

DESCRIPTION	SITE PLAN SHOWING SAMPLE LOCATIONS		
LOCATION	FOSS PLATING COMPANY, INC.		
LOCATION	8140 SECURA WAY SANTA FE SPRINGS, CALIFORNIA		
JOB NO.	DATE	FIGURE NO.	
FPI-06-028	07/12/06	2	



#### Explanation

- GW-5 BORING NUMBER
- GROUND SURFACE
- USCS SOIL DESCRIPTION
- LITHOLOGIC BOUNDARY
- SOIL SAMPLE LOCATION
- WELL SCREEN INTERVAL (IF APPLICABLE)
- TOTAL BORING DEPTH
- GROUNDWATER ELEVATION ENCOUNTERED AT TIME OF BORING/WELL INSTALLATION
- GROUNDWATER ELEVATION ENCOUNTERED AT NOTED TIME OF GAUGING

#### Notes

1. THIS FIGURE PRESENTS ONE INTERPRETATION ONLY, OTHER INTERPRETATIONS ARE POSSIBLE.

#### USCS Lithology Symbols

- GM SILTY GRAVELS
- SC CLAYEY SANDS
- SP POORLY GRADED SANDS
- SW WELL GRADED SANDS
- SM SILTY SANDS
- ML SILTS AND CLAYEY SILTS
- CL CLAY AND SILTY CLAYS
- CH INORGANIC CLAYS

HORIZONTAL: 0 10 20  
 VERTICAL: 0 10 20  
 APPROXIMATE SCALE IN FEET



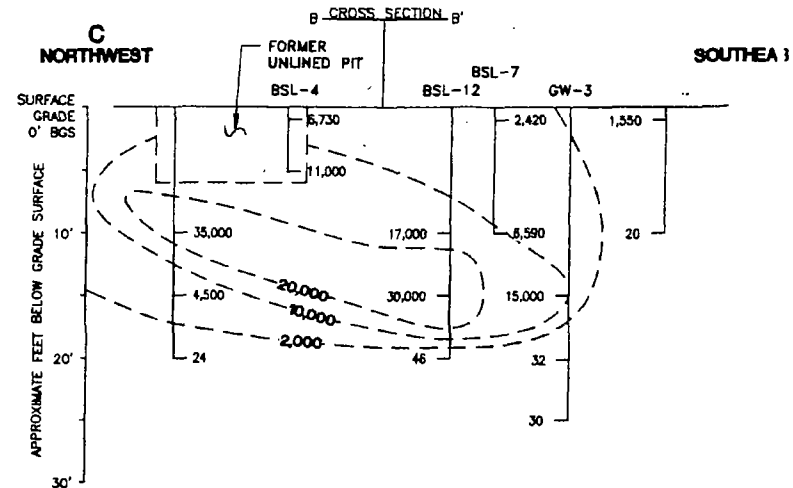
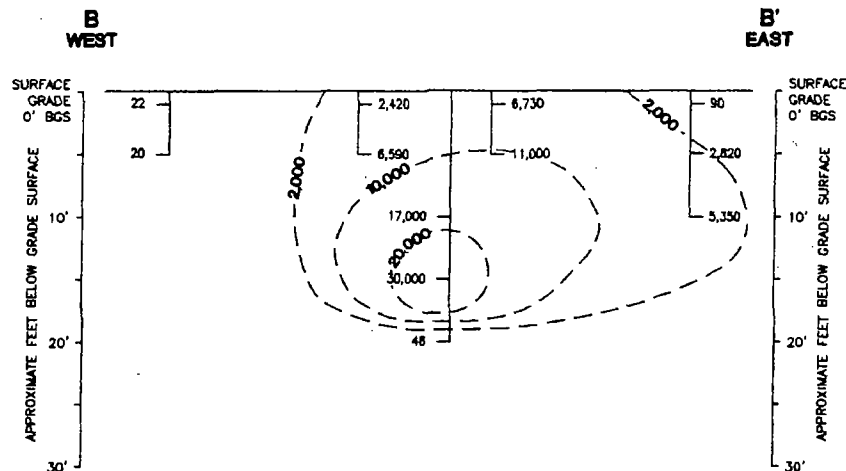
**WINEFIELD & ASSOCIATES, INC.**  
 ENVIRONMENTAL AND SAFETY CONSULTANTS

DESCRIPTION **CROSS-SECTION INDEX A - A'**  
**SITE LITHOLOGY**

LOCATION **FOSS PLATING COMPANY, INC.**

LOCATION **8140 SECURA WAY**  
**SANTA FE SPRINGS, CALIFORNIA**

JOB NO. **FPI-06-028** DATE **07/05/06** FIGURE NO. **4**



### Explanation

- GW-5 BORING NUMBER
- GROUND SURFACE
- USCS SOIL DESCRIPTION
- LITHOLOGIC BOUNDARY
- SOIL SAMPLE LOCATION
- WELL SCREEN INTERVAL (IF APPLICABLE)
- TOTAL BORING DEPTH
- GROUNDWATER ELEVATION ENCOUNTERED AT TIME OF BORING/WELL INSTALLATION
- GROUNDWATER ELEVATION ENCOUNTERED AT NOTED TIME OF GAUGING

SOIL SAMPLE ANALYTICAL RESULTS SHOWING NICKEL AND HEXAVALENT CHROMIUM (PRG 5,500 ug/L (CA 3)) CONCENTRATIONS SHOWN IN MICROGRAMS PER LITER (ug/L).

- NICKEL
- HEXAVALENT CHROMIUM
- NOT DETECTED
- ATTENUATED NICKEL ISOCONCENTRATION CONTOUR LINE IN SOIL AS SEEN PER KILOGRAM (mg/kg)

### Notes

1. THIS FIGURE PRESENTS ONE INTERPRETATION ONLY, OTHER INTERPRETATIONS ARE POSSIBLE.

### USCS Lithology Symbols

- GM SILTY GRAVELS
- SC CLAYEY SANDS
- SP POORLY GRADED SANDS
- SW WELL GRADED SANDS
- SM SILTY SANDS
- ML SILTS AND CLAYEY SILTS
- CL CLAY AND SILTY CLAYS
- CH INORGANIC CLAYS

HORIZONTAL: 0 10 20  
VERTICAL: 0 10 20  
APPROXIMATE SCALE IN FEET



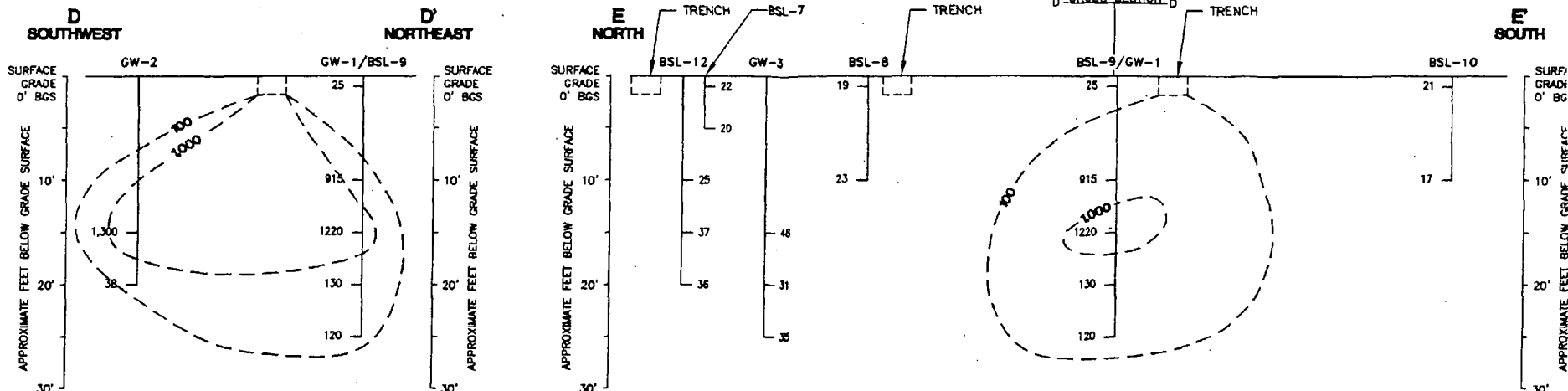
WINEFIELD & ASSOCIATES, INC.  
ENVIRONMENTAL AND SAFETY CONSULTANTS

DESCRIPTION CROSS-SECTION INDEX B - B' AND C - NICKEL

LOCATION FOSS PLATING COMPANY, INC.

LOCATION 8140 SECURA WAY  
SANTA FE SPRINGS, CALIFORNIA

JOB NO. FPI-06-02B DATE 07/27/06 FIGURE NO. 5



#### Explanation

- GW-5 BORING NUMBER
- GROUND SURFACE
- USCS SOIL DESCRIPTION
- LITHOLOGIC BOUNDARY
- SOIL SAMPLE LOCATION
- WELL SCREEN INTERVAL (IF APPLICABLE)
- TOTAL BORING DEPTH
- GROUNDWATER ELEVATION ENCOUNTERED AT TIME OF BORING/WELL INSTALLATION
- GROUNDWATER ELEVATION ENCOUNTERED AT NOTED TIME OF GAUGING

SOIL SAMPLE ANALYTICAL RESULTS SHOWING NICKEL AND HEXAVALENT CHROMIUM (PRG 5,500 ug/L (CA 3)) CONCENTRATIONS SHOWN IN MICROGRAMS PER LITER (ug/L).

- NICKEL
- HEXAVALENT CHROMIUM
- NOT DETECTED

ATTENUATED Cr ISOCENTRATION CONTOUR LINE IN SOIL SHOWN IN MILLIGRAMS PER KILOGRAM (mg/kg)

#### Notes

1. THIS FIGURE PRESENTS ONE INTERPRETATION ONLY, OTHER INTERPRETATIONS ARE POSSIBLE.

#### USCS Lithology Symbols

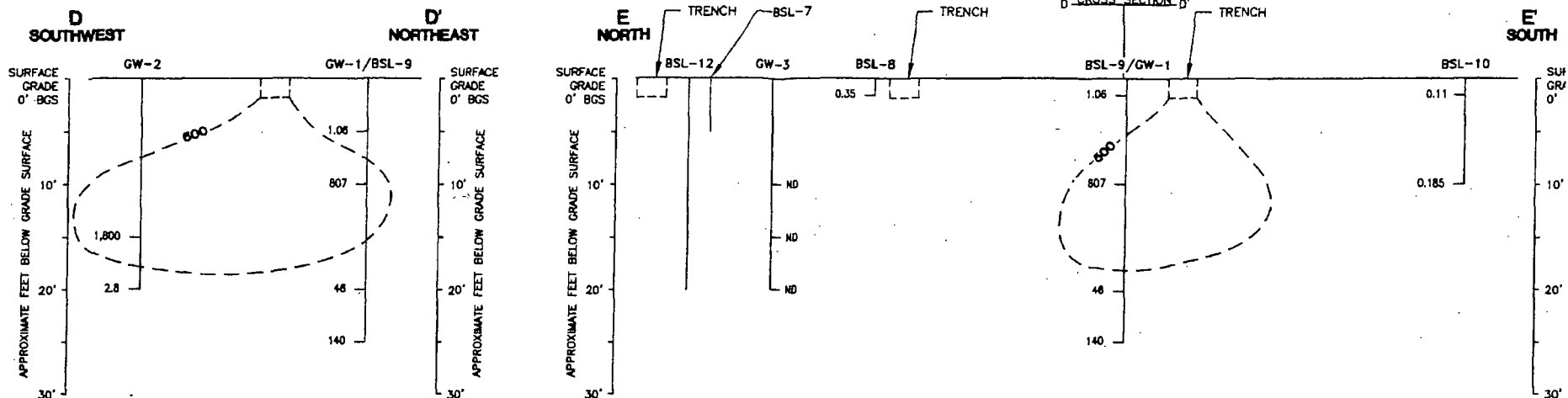
- GM SILTY GRAVELS
- SC CLAYEY SANDS
- SP POORLY GRADED SANDS
- SW WELL GRADED SANDS
- SM SILTY SANDS
- ML SILTS AND CLAYEY SILTS
- CL CLAY AND SILTY CLAYS
- CH INORGANIC CLAYS

HORIZONTAL: 0 10 20  
VERTICAL: 0 10 20  
APPROXIMATE SCALE IN FEET



WINEFIELD & ASSOCIATES,  
ENVIRONMENTAL AND SAFETY CONSULTANTS

DESCRIPTION	CROSS-SECTION INDEX D-D' AND E-E' CHROMIUM		
LOCATION	FOSS PLATING COMPANY, INC.		
LOCATION	8140 SECURA WAY SANTA FE SPRINGS, CALIFORNIA		
JOB NO.	FPI-06-028	DATE	07/27/06
FIGURE NO.	6		



### Explanation

- GW-5 BORING NUMBER
- GROUND SURFACE
- SW USCS SOIL DESCRIPTION
- LITHOLOGIC BOUNDARY
- SOIL SAMPLE LOCATION
- WELL SCREEN INTERVAL (IF APPLICABLE)
- TOTAL BORING DEPTH
- GROUNDWATER ELEVATION ENCOUNTERED AT TIME OF BORING/WELL INSTALLATION
- GROUNDWATER ELEVATION ENCOUNTERED AT NOTED TIME OF GAUGING

SOIL SAMPLE ANALYTICAL RESULTS SHOWING NICKEL, CHROMIUM OR HEXAVALENT CHROMIUM (PRG 5,500  $\mu\text{g/L}$  (CA 3)) CONCENTRATIONS SHOWN IN MICROGRAMS PER LITER ( $\mu\text{g/L}$ ).

NICKEL  
HEXAVALENT CHROMIUM  
- NOT DETECTED

ATTENUATED CMI ISOCONCENTRATION CONTOUR LINE IN SOIL SHOWN IN MILLIGRAMS PER KILOGRAM ( $\text{mg/kg}$ )

### Notes

1. THIS FIGURE PRESENTS ONE INTERPRETATION ONLY, OTHER INTERPRETATIONS ARE POSSIBLE.

### USCS Lithology Symbols

- GM SILTY GRAVELS
- SC CLAYEY SANDS
- SP POORLY GRADED SANDS
- SW WELL GRADED SANDS
- SM SILTY SANDS
- ML SILTS AND CLAYEY SILTS
- CL CLAY AND SILTY CLAYS
- CH INORGANIC CLAYS

HORIZONTAL: 0 10 20  
VERTICAL: 0 10 20  
APPROXIMATE SCALE IN FEET



DESCRIPTION CROSS-SECTION INDEX D-D' AND HEXAVALENT CHROMIUM

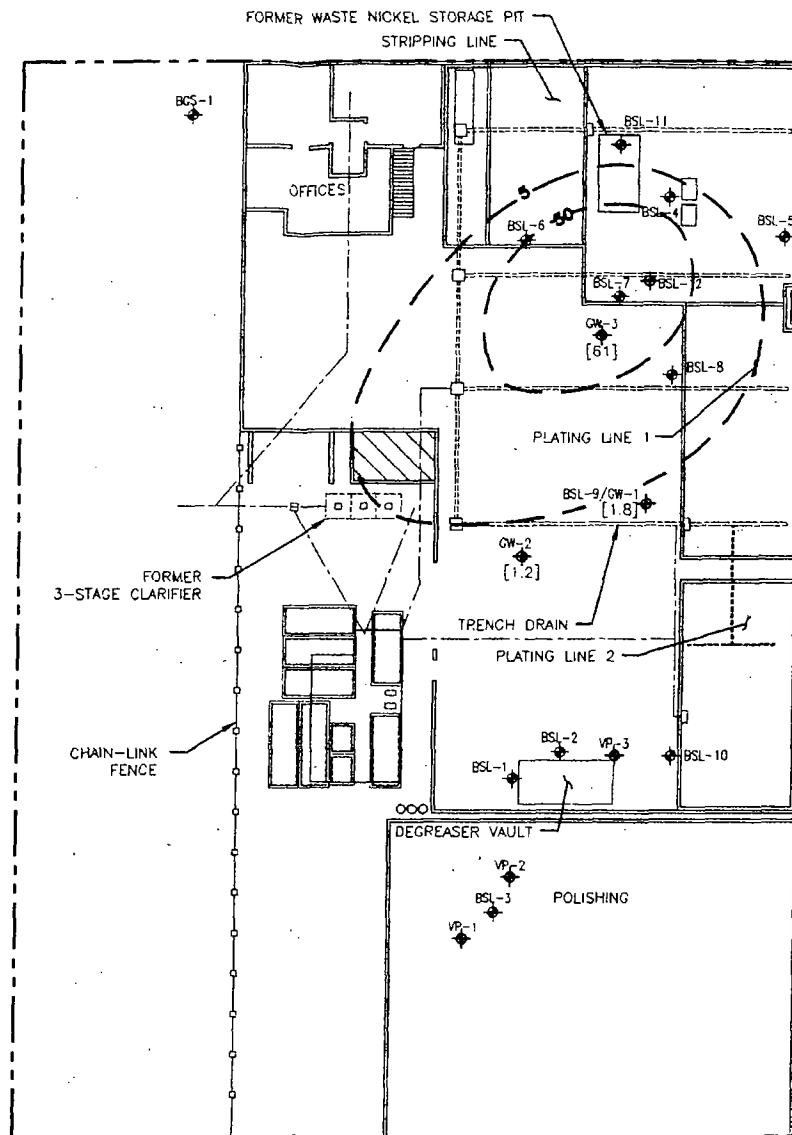
LOCATION POSS PLATING COMPANY, INC.

LOCATION B140 SECURA WAY  
SANTA FE SPRINGS, CALIFORNIA

JOB NO. FPI-06-028 DATE 07/27/06 FIGURE NO.

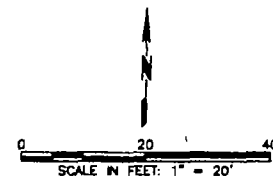


Secura Way



Line  
Location  
Location  
Location  
Location  
Analysis of Nickel  
Concentration Shown in mg/L  
Concentration Contour in  
mg/L

are Approximate



<b>WINEFIELD &amp; ASSOCIATES,</b> ENVIRONMENTAL AND SAFETY CONSULTANTS		
DESCRIPTION <b>NICKEL ISOCONCENTRATIONS IN GROUNDWATER</b>		
LOCATION <b>FOSS PLATING COMPANY, INC.</b>		
LOCATION <b>8140 SECURA WAY SANTA FE SPRINGS, CALIFORNIA</b>		
JOB NO. FPI-06-028	DATE 07/12/06	FIGURE NO. 8

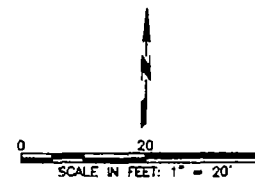
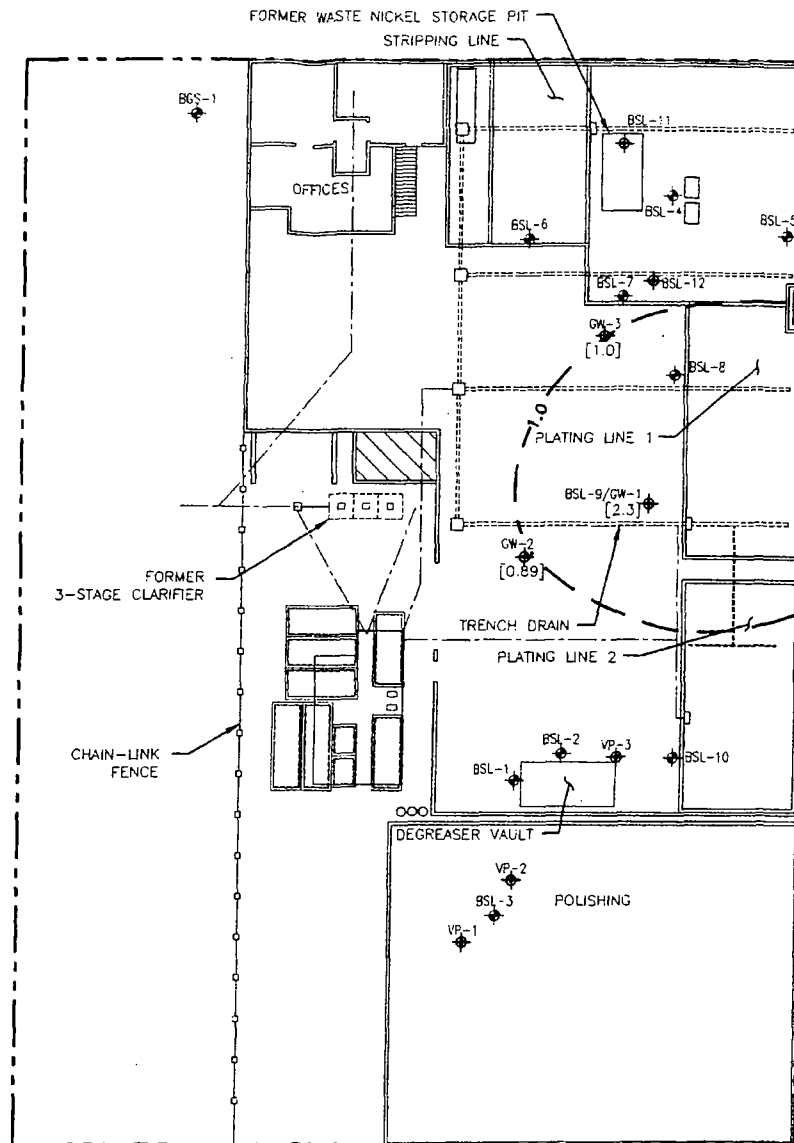
# **Explanation**


- Property Line
- o- Fence Location
- - - Drain Line Location
- ◆ Well Location
- ◆ Soil Boring Location
- [1.0] Groundwater Analysis of Total Chromium Concentrations Shown in mg/L
- - - Total Chromium Isoconcentration Contour in Groundwater (mg/L)  
55,000 ug/L (CA 3) PRG  
Primary 50 ug/L MCL

## **Note:**

1. Site Features and Locations are Approximate, Not a Surveyed Map.

Secura Way



 <b>WINEFIELD &amp; ASSOCIATE</b> ENVIRONMENTAL AND SAFETY CONSULTANTS		
DESCRIPTION TOTAL CHROMIUM ISOCONCENTRATIONS IN GROUNDWATER		
LOCATION FOSS PLATING COMPANY, INC		
LOCATION 8140 SECURA WAY		
SANTA FE SPRINGS, CALIFORNIA		
JOB NO. FPI-06-028	DATE 07/27/06	FIGURE A

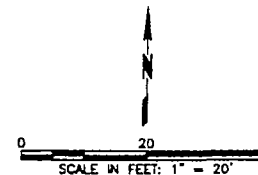
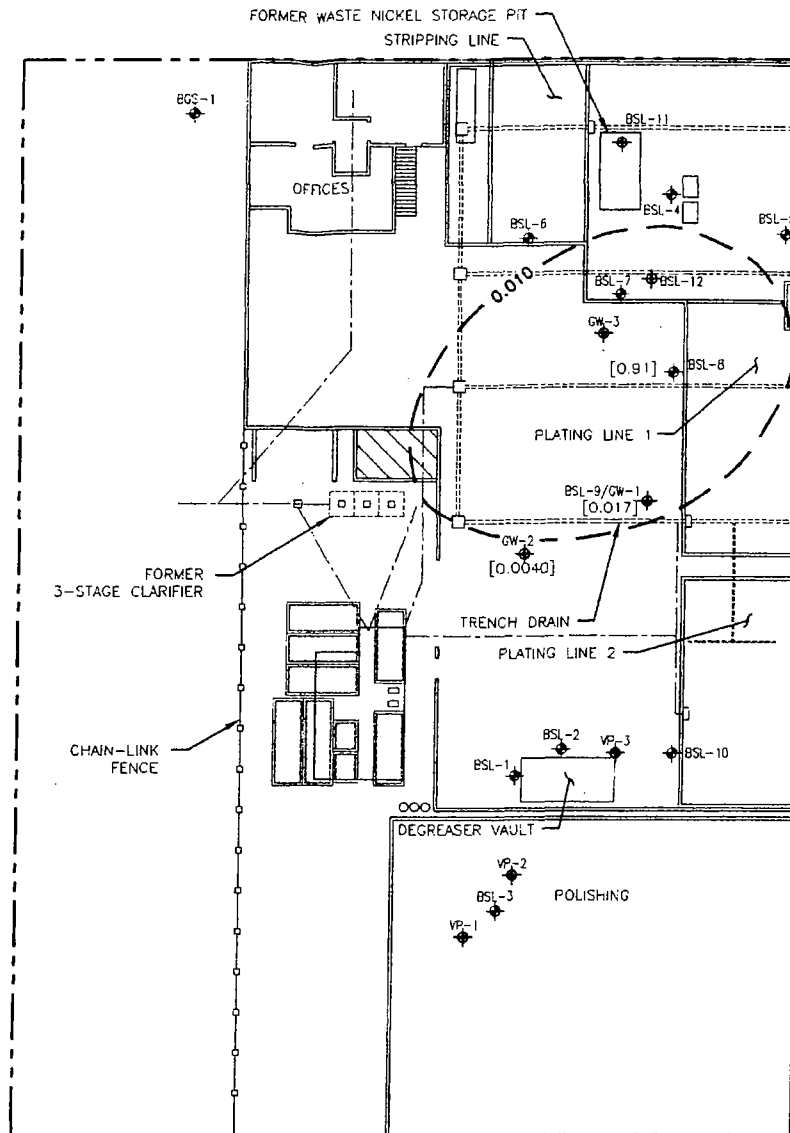
# Explanation


- Property Line
- o- Fence Location
- - - Drain Line Location
- ◆ Well Location
- ◆ Soil Boring Location
- [0.91] Groundwater Analysis of Hexavalent Chromium Concentrations Shown in mg/L
- - - Hexavalent Chromium Isoconcentration Contour in Groundwater (mg/L)  
110 ug/L PRG  
50 ug/L MCL

## Note:

1. Site Features and Locations are Approximate, Not a Surveyed Map.

Secura Way



 <b>WINEFIELD &amp; ASSOCIATES</b> ENVIRONMENTAL AND SAFETY CONSULTANTS		
<b>DESCRIPTION</b> HEXAVALENT CHROMIUM ISOCONCENTRATIONS IN GROUNDWATER		
<b>LOCATION</b> FOSS PLATING COMPANY, INC. 8140 SECURA WAY SANTA FE SPRINGS, CALIFORNIA		
<b>JOB NO.</b> FPI-06-028	<b>DATE</b> 07/27/06	<b>FIGURE NO.</b> 1

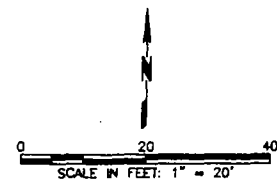
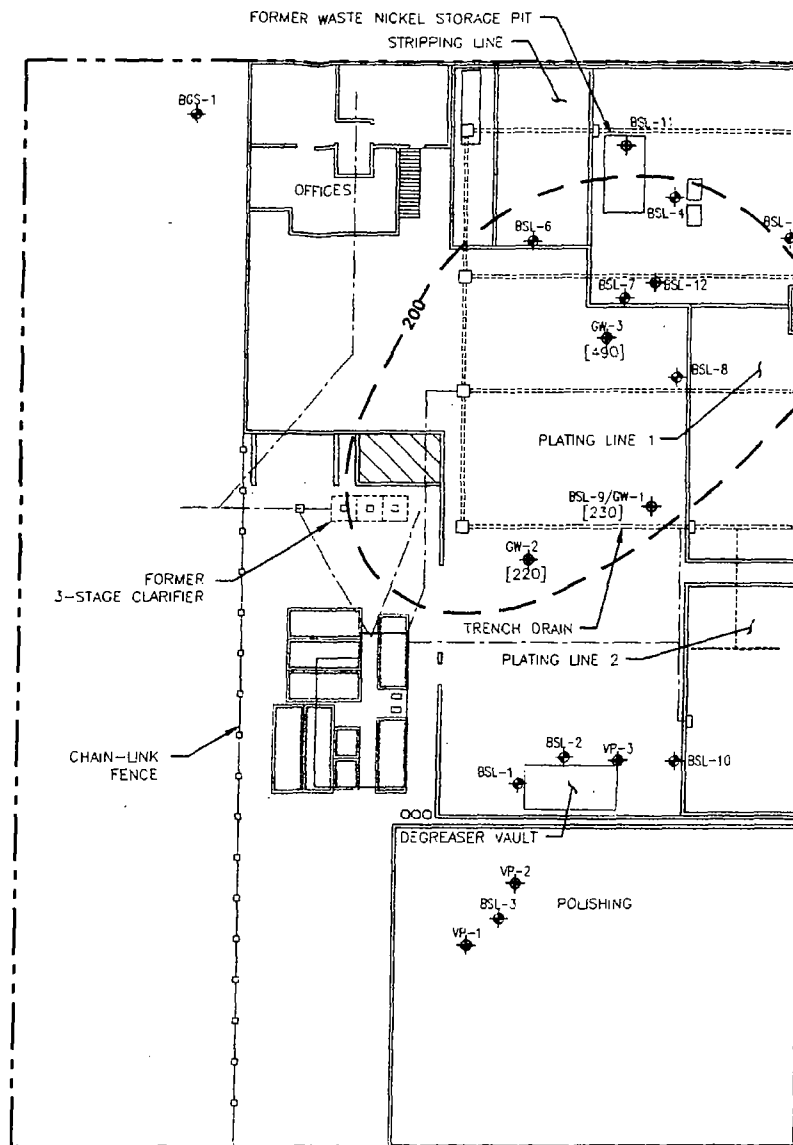
# **Explanation**


- Property Line
- Fence Location
- Drain Line Location
- ◆ Well Location
- ◆ Soil Boring Location
- [490] Groundwater Analysis of PCE Concentrations Shown in mg/L
- PCE Isoconcentration Contour in Groundwater (mg/L)  
0.1 ug/L PRG  
Primary 5 ug/L MCL

## **Note:**

1. Site Features and Locations are Approximate, Not a Surveyed Map.

Secura Way



 <b>WINEFIELD &amp; ASSOCIATES, INC.</b> ENVIRONMENTAL AND SAFETY CONSULTANTS		
DESCRIPTION: PCE ISOCONCENTRATIONS IN GROUNDWATER		
LOCATION: FOSS PLATING COMPANY, INC.		
LOCATION: 8140 SECURA WAY SANTA FE SPRINGS, CALIFORNIA		
JOB NO. FPI-06-028	DATE 07/27/06	FIGURE NO. 1

# **Explanation**

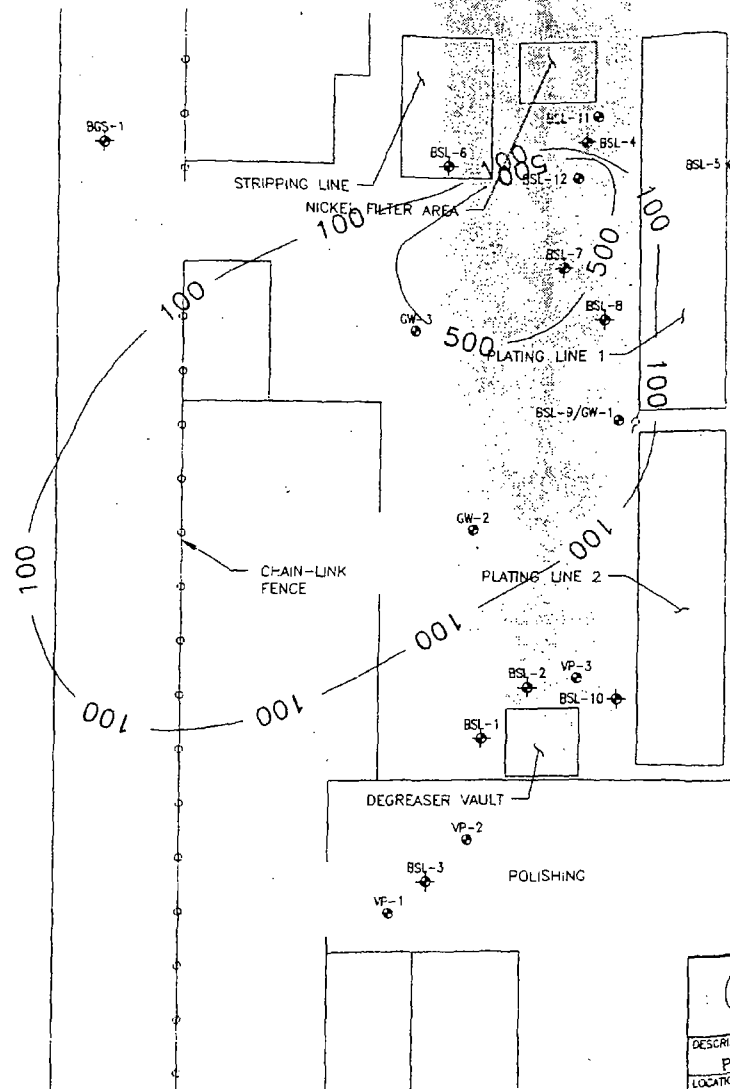
- Fence Line Location
- Recent Boring Location
- ◆ Previous Soil Boring Location

## **Note:**

1. Site Features and Locations are Approximate, Not a Surveyed Map.
2. Concentration units are in ug/l.

FILE NAME: FPI08028F4.DWG (1:1)

Secura Way



<b>WINEFIELD &amp; ASSOCIATES</b> Environmental and Safety Consultants	
DESCRIPTION	GROUND WATER PERCHLOROETHYLENE CONCENTRATIONS
LOCATION	FOSS PLATING COMPANY
LOCATION	8140 SECURA WAY SANTA FE SPRINGS, CALIF.
JOB NO.	DATE
FPI-06-028	04/25/06